

CLAIMS

1. An image forming apparatus comprising:
 - a sheet storing unit for storing a plurality of sheets layered one upon another;
 - an elevation/lowering driving unit for elevating/lowering the sheet storing unit;
 - a sheet conveying unit for taking out sheets one by one from a topmost layer that is brought into contact with the sheet conveying unit by elevating the sheet storing unit with the elevation/lowering driving unit and conveying the sheets to a predetermined conveyance path;
 - a regulating unit, mounted slidably with respect to the sheet storing unit, for regulating a mount position of sheets;
 - a position detector for detecting a position of the regulating unit;
 - a controller capable of controlling an elevation/lowering movement of the sheet storing unit caused by the elevation/lowering driving unit on the basis of a detection result of the position detector; and
 - an image forming unit for forming an image on a sheet conveyed by the sheet conveying unit.

2. The image forming apparatus according to Claim 1, further comprising a storing unit for storing sheet information,

wherein the controller is capable of performing further operations of:

measuring dimensions of a sheet stored in the sheet storing unit on the basis of a detection result of the position detector;

judging whether or not the sheet corresponds to the sheet information stored in the storing unit, on the basis of the measured dimensions; and

controlling the elevation/lowering driving unit to elevate the sheet storing unit when it is judged that the sheet corresponds to the sheet information.

3. The image forming apparatus according to Claim 2, wherein the controller is capable of performing further operations of:

measuring time;

controlling the elevation/lowering driving unit, when it is judged that the sheet corresponds to the sheet information, to elevate the sheet storing unit after a predetermined time has elapsed from a time at which the judgment was made; and

stopping control of the elevation/lowering driving unit when it is judged that the sheet does not correspond to the sheet information.

4. The image forming apparatus according to Claim 2, wherein the controller is capable of performing further operations

of:

measuring time;

controlling the elevation/lowering driving unit, when it is judged that the sheet corresponds to the sheet information, to elevate the sheet storing unit after a first predetermined time has elapsed from a time at which the judgment was made; and

controlling the elevation/lowering driving unit, when it is judged that the sheet does not correspond to the sheet information, to elevate the sheet storing unit after a second predetermined time has elapsed from a time at which the judgment was made.

5. The image forming apparatus according to Claim 4, wherein the controller controls the elevation/lowering driving unit, after the second predetermined time has elapsed, to elevate the sheet storing unit to a predetermined position where the topmost layer of the sheets and the sheet conveying unit are separated.

6. The image forming apparatus according to Claim 2, further comprising a sheet detector for detecting whether or not a sheet is mounted in the sheet storing unit,

wherein the controller is capable of performing further operations of:

controlling the elevation/lowering driving unit, when the sheet detector detects a sheet stored in the sheet storing unit and it is judged that the sheet corresponds to the sheet information, to

elevate the sheet storing unit after a predetermined time has elapsed; and

stopping control of the elevation/lowering driving unit when the sheet detector detects a sheet stored in the sheet storing unit and it is judged that the sheet does not correspond to the sheet information.

7. The image forming apparatus according to Claim 6, wherein the controller controls the elevation/lowering driving unit, after a second predetermined time has elapsed, to elevate the sheet storing unit to a predetermined position where the topmost layer of the sheets and the sheet conveying unit are separated.

8. The image forming apparatus according to Claim 2, further comprising a sheet detector for detecting whether or not a sheet is mounted in the sheet storing unit,

wherein the controller is capable of performing further operations of:

controlling the elevation/lowering driving unit, when the sheet detector detects a sheet stored in the sheet storing unit and it is judged that the sheet corresponds to the sheet information, to elevate the sheet storing unit after a first predetermined time has elapsed; and

controlling the elevation/lowering driving unit, when the sheet detector detects a sheet stored in the sheet storing unit and it

is judged that the sheet does not correspond to the sheet information, to elevate the sheet storing unit after a second predetermined time has elapsed.

9. The image forming apparatus according to Claim 8, wherein the controller controls the elevation/lowering driving unit, after the second predetermined time has elapsed, to elevate the sheet storing unit to a predetermined position where the topmost layer of the sheets and the sheet conveying unit are separated.

10. The image forming apparatus according to Claim 1, further comprising a contact detector for detecting a contact state between the topmost layer of the sheets stored in the sheet storing unit and the sheet conveying unit,

wherein the controller controls the elevation/lowering driving unit to elevate the sheet storing unit until the contact detector detects the contact state.

11. An image forming apparatus comprising:

sheet storing means for storing a plurality of sheets layered one upon another;

elevation/lowering driving means for elevating/lowering the sheet storing means;

sheet conveying means for taking out sheets one by one from a topmost layer that is brought into contact with the sheet

conveying means by elevating the sheet storing means with the elevation/lowering driving means and conveying the sheets to a predetermined conveyance path;

regulating means, mounted slidably with respect to the sheet storing means, for regulating a mount position of sheets;

position detecting means for detecting a position of the regulating means;

control means for controlling an elevation/lowering movement of the sheet storing means caused by the elevation/lowering driving means on the basis of a detection result of the position detecting means; and

image forming means for forming an image on a sheet conveyed by the sheet conveying means.

12. The image forming apparatus according to Claim 11, further comprising:

storing means for storing sheet information;

measuring means for measuring dimensions of a sheet stored in the sheet storing means on the basis of a detection result of the position detecting means; and

judging means for judging whether or not the sheet corresponds to the sheet information stored in the storing means, on the basis of the dimensions measured by the measuring means,

wherein, when the judging means judges that the sheet corresponds to the sheet information, the control means controls the

elevation/lowering driving means to elevate the sheet storing means.

13. The image forming apparatus according to Claim 12, further comprising timer means,

wherein, when the judging means judges that the sheet corresponds to the sheet information, the control means controls the elevation/lowering driving means to elevate the sheet storing means after a predetermined time has elapsed from a time at which the judging means made the judgment; and

when the judging means judges that the sheet does not correspond to the sheet information, the control means stops control of the elevation/lowering driving means.

14. The image forming apparatus according to Claim 12, further comprising timer means,

wherein, when the judging means judges that the sheet corresponds to the sheet information, the control means controls the elevation/lowering driving means to elevate the sheet storing means after a first predetermined time has elapsed from a time at which the judging means made the judgment; and

when the judging means judges that the sheet does not correspond to the sheet information, the control means controls the elevation/lowering driving means to elevate the sheet storing means after a second predetermined time has elapsed from a time at which the judging means made the judgment.

15. The image forming apparatus according to Claim 14, wherein the control means controls the elevation/lowering driving means, after the second predetermined time has elapsed, to elevate the sheet storing means to a predetermined position where the topmost layer of the sheets and the sheet conveying means are separated.

16. The image forming apparatus according to Claim 12, further comprising sheet detecting means for detecting whether or not a sheet is mounted in the sheet storing means,

wherein, when the sheet detecting means detects a sheet stored in the sheet storing means and the judging means judges that the sheet corresponds to the sheet information, the control means controls the elevation/lowering driving means to elevate the sheet storing means after a predetermined time has elapsed; and

when the sheet detecting means detects a sheet stored in the sheet storing means and the judging means judges that the sheet does not correspond to the sheet information, the control means stops control of the elevation/lowering driving means.

17. The image forming apparatus according to Claim 16, wherein the control means controls the elevation/lowering driving means, after a second predetermined time has elapsed, to elevate the sheet storing means to a predetermined position where the

topmost layer of the sheets and the sheet conveying means are separated.

18. The image forming apparatus according to Claim 12, further comprising sheet detecting means for detecting whether or not a sheet is mounted in the sheet storing means,

wherein, when the sheet detecting means detects a sheet stored in the sheet storing means and the judging means judges that the sheet corresponds to the sheet information, the control means controls the elevation/lowering driving means to elevate the sheet storing means after a first predetermined time has elapsed; and

when the sheet detecting means detects a sheet stored in the sheet storing means and the judging means judges that the sheet does not correspond to the sheet information, the control means controls the elevation/lowering driving means to elevate the sheet storing means after a second predetermined time has elapsed.

19. The image forming apparatus according to Claim 18, wherein the control means controls the elevation/lowering driving means, after the second predetermined time has elapsed, to elevate the sheet storing means to a predetermined position where the topmost layer of the sheets and the sheet conveying means are separated.

20. The image forming apparatus according to Claim 11, further comprising contact detecting means for detecting a contact state between the topmost layer of the sheets stored in the sheet storing means and the sheet conveying means,

wherein the control means controls the elevation/lowering driving means to elevate the sheet storing means until the contact detecting means detects the contact state.